IM-CL

(1)

ENVIRONMENTAL ASSESSMENT

WING DAM IMPROVEMENTS AT FINLEY'S LANDING

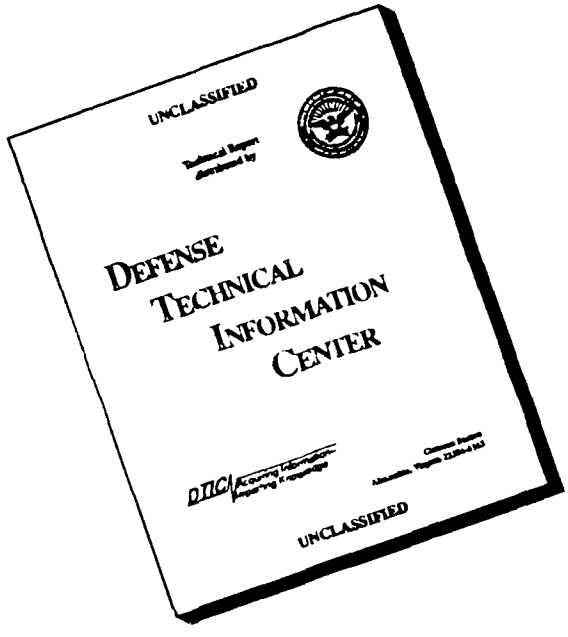
POOL 11, MISSISSIPPI RIVER

GRANT COUNTY, WISCONSIN

JULY 1992

US Army Corps
of Engineers
Rock Island District

DISCLAIMER NOTICE



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DEPARTMENT OF THE ARMY
ROCK ISLAND DISTRICT, CORPS OF ENGINEERS
CLOCK TOWER BUILDING – P.O. BOX 2004
ROCK ISLAND, ILLINOIS 61204-2004

REPLY TO
ATTENTION OF

CENCR-PD-E

ENVIRONMENTAL ASSESSMENT

WING DAM IMPROVEMENTS AT FINLEY'S LANDING

POOL 11, MISSISSIPPI RIVER
GRANT COUNTY, WISCONSIN

JULY 1992

ENVIRONMENTAL ASSESSMENT

WING DAM IMPROVEMENTS AT FINLEY'S LANDING

POOL 11, MISSISSIPPI RIVER
GRANT COUNTY, WISCONSIN

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Finding of No Significant Impact

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ENVIRONMENTAL ASSESSMENT

WING DAM IMPROVEMENTS AT FINLEY'S LANDING

POOL 11, MISSISSIPPI RIVER
GRANT COUNTY, WISCONSIN

I. PURPOSE AND NEED FOR ACTION.

The purpose of this Environmental Assessment (EA) is to address the effects of new construction proposed as part of navigation channel maintenance. Navigation channel maintenance includes periodic repair of existing training works or regulating structures, e.g., wing dams and closing dams, as well as modification of these structures. These actions generally involve large-grade limestone rock placement.

Modification may include the raising, lowering, or notching of these structures to optimize their performance in flow control and sediment transport. Also, navigation dams and appurtenant structures require periodic rock placement for repair or improvement of bank protection.

This document specifically addresses rock placement at three sites in Pool 11, River Miles (RMs) 595.9 -597.3, Mississippi River, Grant County, Wisconsin. The existing structures are two wing dams and one closing dam (plate 1).

These structures reduce flow through Hurricane Chute, thereby maintaining flow in the navigation channel. Recent hydrologic modeling and surveys indicate that flows have increased through Hurricane Chute and have decreased in the main channel, thereby reducing flows and sediment transport in the main channel. As a result, channel maintenance, i.e., dredging and dredged material placement, has and will increase in this area. Construction and repairs to these structures will help divert waters to the main channel, thereby reducing the need for dredging, yet allowing flow in the side channels so that increased siltation will not occur.

A new closing dam is proposed to be constructed just downstream of these existing structures (RM 595.9). This closing dam also will aid in diverting flows into the main channel. Because this structure requires a more detailed Environmental Assessment, it is not covered in this document.

Alternatives to the proposed actions are limited and include the no Federal action alternative or other configurations and quantities of rock.

The project is expected to help maintain the navigation channel, with no significant impacts to natural, cultural, economic, or social resources. For this reason, an Environmental Impact Statement (EIS) will not be prepared for this action. Because the proposed action is subject to the

provisions of the Clean Water Act, a Section 404(b)(1) Evaluation has been prepared for the project (appendix B). Section 401 compliance has been sought through coordination with the States of Iowa and Wisconsin. A Public Notice has been prepared and is being distributed concurrently with this document. Copies of correspondence relative to this action are included in Appendix A - Pertinent Correspondence.

II. PROJECT DESCRIPTION.

The proposed work addressed involves improvements to Wing Dams Nos. 39 and 5 and Closing Dam No. 3 which are planned to be raised to elevation 599.0 from their construction height of elevation 596.3. Each proposed action is described below.

A. Closing Dam No. 3. This structure is located at RM 596.3. Plate 2 shows the original design dimensions and the proposed dimensions. This structure will be raised to elevation 599.0, 4 feet below flat pool. The dam's length will be increased by 62 feet on its west side. Two hundred feet of bankline protection will be installed on both banks adjacent to the closing dam.

B. Wing Dam No. 5. This structure is located at RM 596.7. The elevation of Wing Dam No. 5 is to be raised from 596.0 to 599.0, 4 feet below flat pool. The length of the wing dam will be brought back to original design of 1,749 feet (plate 3).

Island 203 will have 200 feet of bankline protection added at the wing dam juncture.

C. Wing Dam No. 39. This structure is located at RM 596.4. Its elevation is to be raised from 595.9 to 599.0, 4 feet below flat pool. Its length will remain at 236 feet, and no bankline protection is needed (plate 4).

III. ALTERNATIVES.

Alternatives to the proposed action include:

A. No Federal Action. No action on the part of the Corps of Engineers means that no new construction will occur (i.e., no new closing dam or elevation and length expansion on existing structures). Without the new construction, annual dredging would still be required since repair of existing structures to original design would most likely be insufficient to reduce dredging frequency.

B. Construction of Training Works in Other Locations or Configurations. This alternative was not selected based on hydraulic

design necessary to capture and maintain flow in the Mississippi River main channel at the proposed project location.

C. Repair the Three Structures in the Project Location. This is the preferred alternative and is described in detail in Section II, PROJECT DESCRIPTION.

IV. AFFECTED ENVIRONMENT.

Prior to construction of Lock and Dam 11, the proposed area was comprised of islands, creating side and main channel habitats. After inundation of Pool 11, the high points of the islands remained, reducing island size and terrestrial habitat, yet increasing aquatic habitat.

Vegetation on the islands is primarily floodplain forest comprised of species such as silver maple (*Acer saccharinum*), cottonwood (*Populus deltoides*), willow (*Salix* sp.), box elder (*Acer negundo*), and mulberry (*Morus* sp.).

Wildlife species typically using the area include small mammals, rodents, and deer. Fresh beaver cuttings, runs, and dens were apparent in the proposed location. The combination of wooded island and adjacent slough provides habitat for reptiles and amphibians. The mature forest also provides habitat for the common flicker and other woodpecker and bird species, as well as nesting cavities for owls.

The bald eagle (*Haliaeetus leucocephalus*) is a winter resident and may use large trees on the shorelines of the islands as perches.

Birds such as ducks and wading birds utilize the backwater areas as feeding and loafing sites.

The aquatic community found near the existing structures would typically be diverse, owing to the range of available habitat types within a small area. In a 1981 study by the Iowa Conservation Commission (now the Iowa Department of Natural Resources) researchers found that certain wing dams are attractants to fish. Fish preferred wing dams on outside bends that had less than 5 feet of water flowing over the top of the structure. Wing and closing dam habitat is an important component of the habitats available to the Upper Mississippi River fish community. Study results showed that these structures provide aquatic habitat diversity, shelter, produce fish food organisms, and may provide spawning substrate for a variety of fish species.

Mussels that have been found near the study area are predominantly common. Although no Federal endangered species were observed, one State of Wisconsin endangered species, yellow sandshell (*Lampsilis teres*) has been found in the area.

An archeological reconnaissance survey was conducted on March 6, 1992, and reported to the Division of Historic Preservation, State Historical Society of Wisconsin. In a reply dated April 30, 1992 (SHSW: #92-0369/GT), the Division concluded that the project had no potential to affect cultural resources (appendix A).

V. ENVIRONMENTAL EFFECTS.

Environmental effects are summarized in table EA-1.

The long-term effect of the project is expected to be beneficial to man-made resources in the area with no significant adverse effect on natural resources.

Wildlife species which may currently utilize the project area will not be significantly affected by the action. The placement of riprap below the normal water level and extension of bank protection below the dam is expected to benefit aquatic resources by increasing substrate diversity and reducing bank caving.

Rock bank protection is not expected to affect terrestrial species currently using the project area. Beaver, whose bank dens are p[illegible]t in the area, will recolonize adjacent habitat. The beaver's abil[illegible]o propagate quickly will offset any short-term population loss.

Contributing effects by construction of the new closing dam at RM 495.6 will reduce, but not eliminate, flows downstream. This is expected to have a minimal overall effect on the aquatic system, if not overall habitat gains in the area.

Reduction of side channel flow during the winter months may increase habitat suitability for fish species requiring low velocities. Increased navigation channel flow is intended to improve sediment transport and scour of sand accretions in the main channel. Because of the relative instability of the sand substrate in this reach, little colonization or development of a diverse benthic community would be expected. Therefore, reversal of accretion in this reach is not expected to be detrimental to the aquatic community.

Federally listed threatened and endangered species were considered for this project. Threatened or endangered species which potentially may be affected by actions of this type are the bald eagle, the Higgins' eye pearly mussel (*Lampsilis higginsi*), and the fat pocketbook pearly mussel (*Potamilis capex*).

Bald eagles utilize large trees along the shoreline throughout the area as resting and feeding perches. Over the long-term, bank stabilization should prevent the loss of shoreline trees. No such trees would need to be removed for construction of the proposed project. Project construction

TABLE EA-1

Effects of the Proposed Action on
Natural and Cultural Resources

Types of Resources	Authorities	Evaluation of Effects
Air Quality	Clean Air Act, as amended (42 U.S.C. 1857h-7, et seq.)	No permanent or long-term adverse effects. Will be in compliance with applicable air quality regulations.
Areas of Particular Concern Within the Coastal Zone	Coastal Zone Management Act in 1972, as amended (16 U.S.C. 145,1 et seq.)	Not present in planning area.
Endangered and Threatened Species Critical Habitat	Endangered Species Act of 1973, as amended (16 U.S.C. 1531, et seq.)	No threat to the presence or continued existence of any federally listed endangered or threatened species is anticipated.
Floodplains	Executive Order 11988, Flood Plain Management	Existing development will receive additional protection. Since the study area already has flood protection, the project's influence on future development is expected to be limited.
Historic and Cultural Properties	National Historic Preservation Act of 1966, as amended (16 U.S.C. 470, et seq.)	No significant impacts anticipated.
Prime and Unique Farmland	CEQ Memorandum of August 1980; Analysis of Impacts on Prime or Unique Agricultural Lands in Implementing the National Environmental Policy Act. Farmland Protection Policy Act.	No effect.
Water Quality	Clean Water Act of 1977, as amended (33 U.S.C. 1251, et seq.)	No waters of the U.S. affected.
Wetlands	Executive Order 11990, Protection of Wetlands, May 24, 1977	No wetlands will be affected.
Wild and Scenic Rivers	Wild and Scenic Rivers Act, as amended (16 U.S.C. 1271, et seq.)	Not present in planning area.

will take place during the summer and late fall months; therefore, no significant impacts to the wintering bald eagle population are anticipated to result from project activities.

It is not likely that the area supports either federally endangered mussel species.

Impacts to State threatened or endangered species are also anticipated to be minimal to nonexistent. The Wisconsin Department of Natural Resources (WDNR) concurs with this (appendix A).

Minor, temporary increases in noise levels and air quality due to construction activity may occur as a result of construction and transportation of materials. This may have temporary adverse effects on users of nearby recreational sites. No long-term significant impacts are anticipated, and no air quality standards should be violated.

Minor, temporary increases in turbidity and levels of suspended sediments would occur during construction activity. No long-term adverse effects to water quality are anticipated. A Section 404(b)(1) Evaluation has been prepared (appendix B). Section 401 certification has been requested from the State of Wisconsin and will be obtained prior to construction.

An archeological reconnaissance survey was conducted on March 6, 1992, and reported to the Division of Historic Preservation, State Historical Society of Wisconsin. In a reply dated April 30, 1992 (SHSW: #92-0369/GT), the Division concluded that the project had no potential to affect cultural resources.

Construction of bank protection and closing dam is expected to have little effect on aesthetic values. No displacement of people or farms will occur, and no change in community cohesion is anticipated. No significant impacts to community and regional growth, property values and tax revenues, or employment and labor force are expected to result from this action. Business and industrial development may be considered to benefit from maintenance of the navigation channel and training works in this section of the river. No significant impacts to life, health, and safety are anticipated. Noise levels would increase temporarily during construction but will not impact the surrounding area. Public recreational facilities and services will benefit from a small increase in fishing activity. The project also will help maintain the 9-foot navigation channel for commercial and recreational fishing.

Considered in conjunction with future proposed work in the project area, cumulative effects of the project include bank stabilization, reduced dredging, and slight recreational enhancement.

With no Federal action, no adverse effects would occur from construction, bank caving and sediment input would continue, and no long-term benefits to recreation would be expected. Alternative locations for bank protection wing dam repair would be anticipated to have impacts similar to the

preferred alternative, but would not serve the immediate need for training works maintenance and bank protection.

VI. RELATIONSHIP TO ENVIRONMENTAL REQUIREMENTS.

The project will comply with Federal environmental laws, Executive Orders and policies, and State and local policies including the following:

Clean Air Act, as amended
Clean Water Act, as amended
Endangered Species Act of 1973, as amended
Federal Water Project Recreation Act
Fish and Wildlife Coordination Act of 1958, as amended
Land and Water Conservation Fund Act of 1966, as amended
National Environmental Policy Act of 1969, as amended
National Historic Preservation Act of 1966, as amended

The project is located on federally owned land and will not result in the conversion of farmland or existing land-use plans. This segment of the Upper Mississippi River is not a federally recognized wild or scenic river. The project will not result in any significant change in floodplain storage, and no significant loss of wetlands will occur from project implementation. Therefore, this action will not conflict with the provisions of the following:

Farmland Protection Policy Act of 1981
Executive Order 11988, Floodplain Management
Executive Order 11990, Protection of Wetlands
Wild and Scenic Rivers Act of 1968

VII. COORDINATION.

Coordination has been made throughout the planning and design process with the following State and Federal agencies:

U.S. Fish and Wildlife Service
Wisconsin Department of Natural Resources (WDNR)
Iowa Department of Natural Resources
U.S. Coast Guard
Wisconsin State Historic Preservation Officer
U.S. Environmental Protection Agency

Wing and closing dam repair work, bank stabilization, and improvement of navigation training works are coordinated through an interagency team called the Committee to Assess Regulatory Structures (CARS). CARS consists of interdisciplinary personnel from the Corps of Engineers and the U.S. Fish and Wildlife Service. The U.S. Fish and Wildlife Service ensures the

input of appropriate State natural resource staff to the planning process. CARS activities also are discussed in other forums such as the Fish and Wildlife Interagency Committee (FWIC) and the River Resources Coordinating Team (RRCT).

Appendix A - Pertinent Correspondence, contains letters of comment regarding this action.

In their letter of March 2, 1992, the Wisconsin Department of Natural Resources expressed several concerns with this project:

A. A State permit is needed for the action. Prior to construction, this permit will be obtained.

B. The letter contained other comments regarding the new closing dam, which will be addressed in the Environmental Assessment for that structure.

FINDING OF NO SIGNIFICANT IMPACT

WING DAM IMPROVEMENTS AT FINLEY'S LANDING

POOL 11, MISSISSIPPI RIVER
GRANT COUNTY, WISCONSIN

I have reviewed the information provided by this Environmental Assessment, along with data obtained from cooperating Federal, State, and local agencies and from the interested public. Based on this review, I find that construction of the proposed wing dam, repair of two existing wing dams and one closing dam, and bankline protection will not significantly affect the quality of the environment. Therefore, it is my determination that an Environmental Impact Statement (EIS) is not required. This determination will be reevaluated if warranted by later developments.

Alternatives considered along with the preferred action were:

- No Federal action

- Construction of training works in other locations or configurations

Factors considered in making a determination that an EIS was not required are as follows:

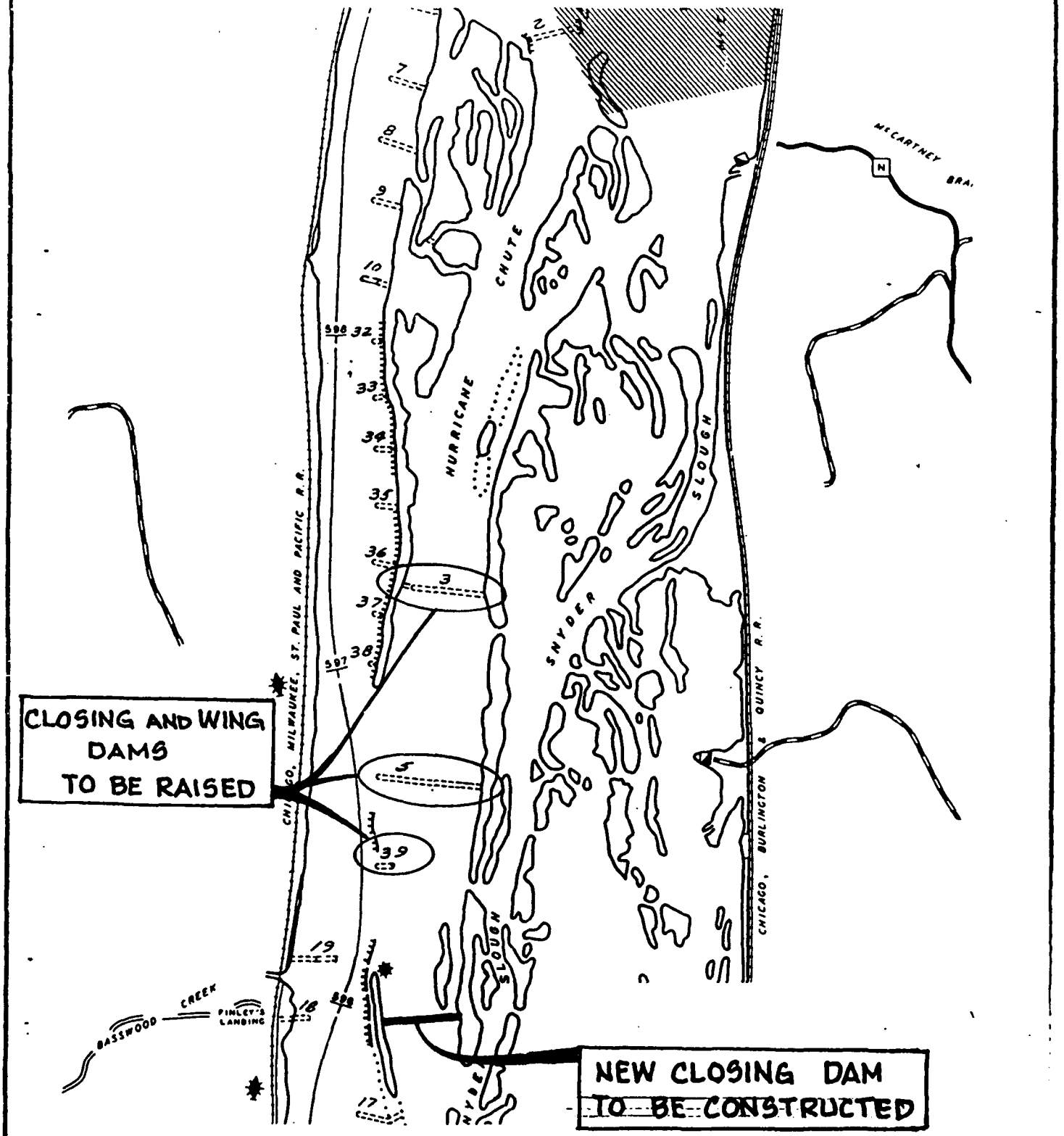
a. The action is expected to reduce the need for channel maintenance dredging and placement activities in this section of the river.

b. Initial loss of and disturbance to aquatic habitat during construction will be offset by increased habitat diversity following project completion.

c. No significant social, economic, environmental or cultural impacts are anticipated as a result of this action.

_____
(Date)

Albert J. Kraus
Colonel, U.S. Army
District Engineer

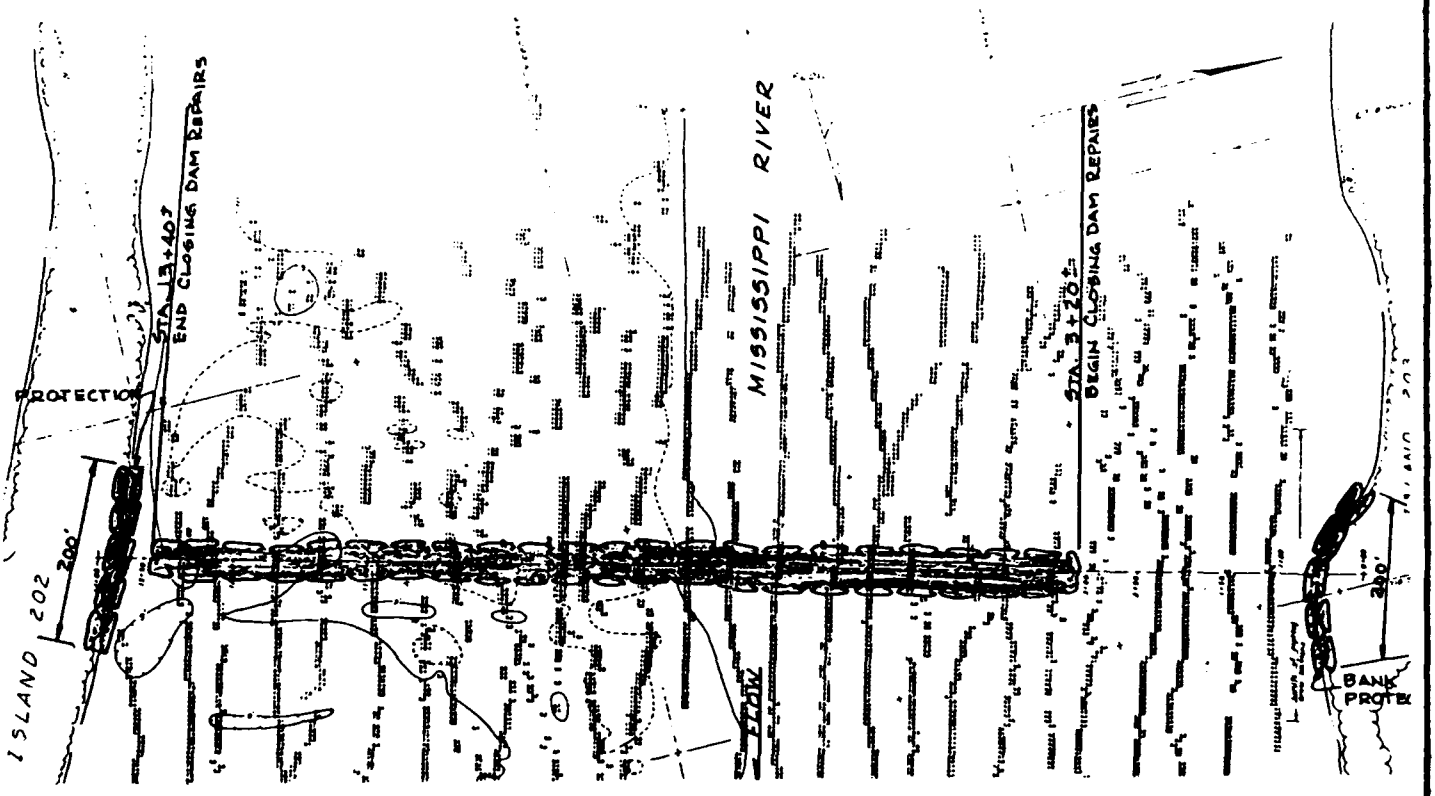


MISSISSIPPI RIVER
POOL 11

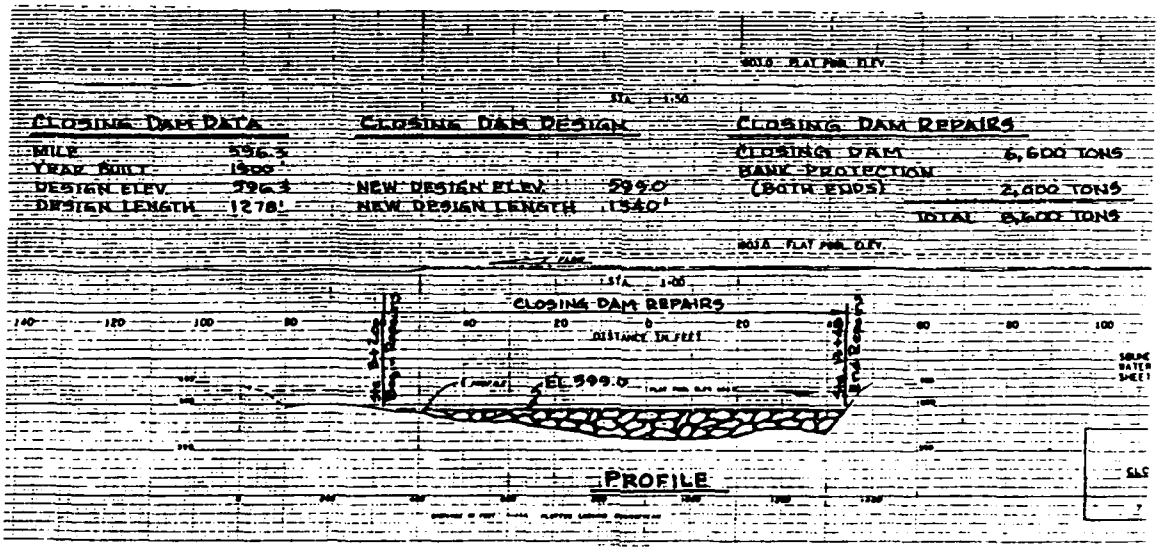
CLOSING AND WING DAM
REMEDIAL WORK

GENERAL PLAN

PLATE 1



PLAN
CLOSING DAM NO. 3

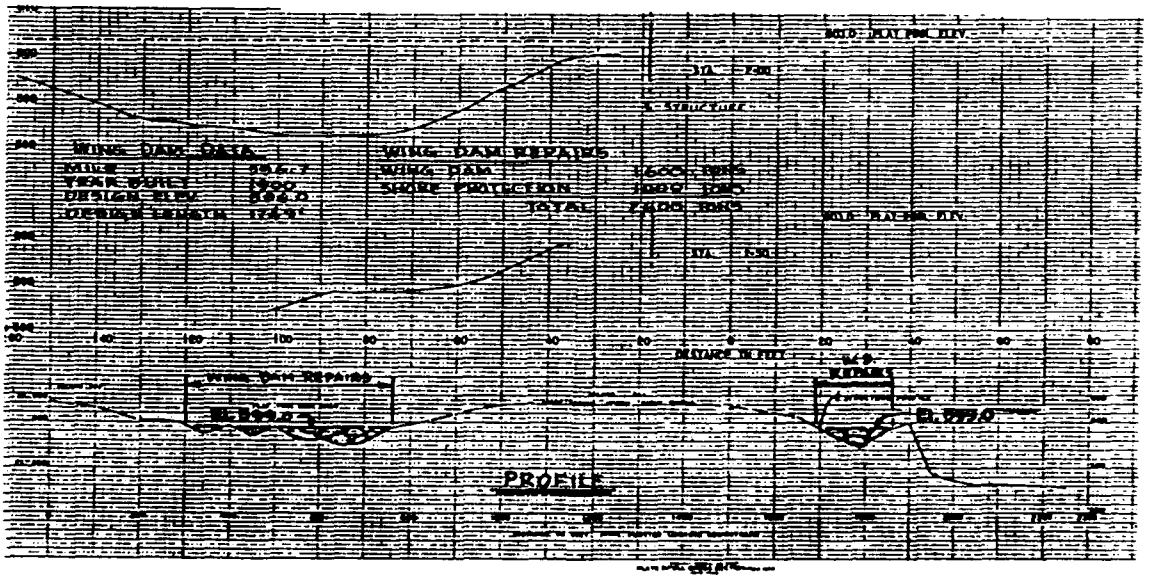


MISSISSIPPI RIVER
POOL 11

CLOSING DAM REMEDIAL WORK
CLOSING DAM NO. 3 - MILE 597.3
PLAN and PROFILE

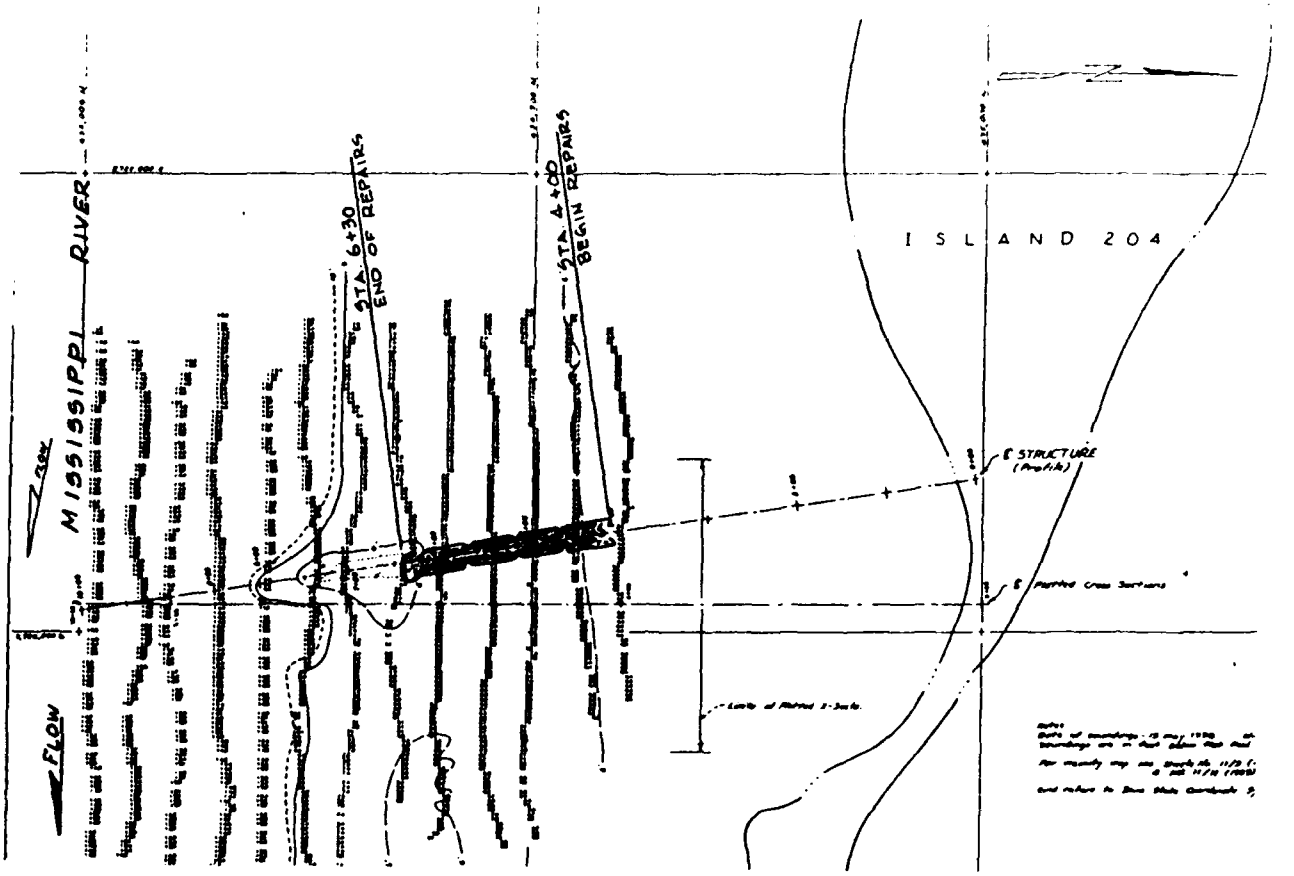
PLATE 2

PLAN
WING DAM NO. 5



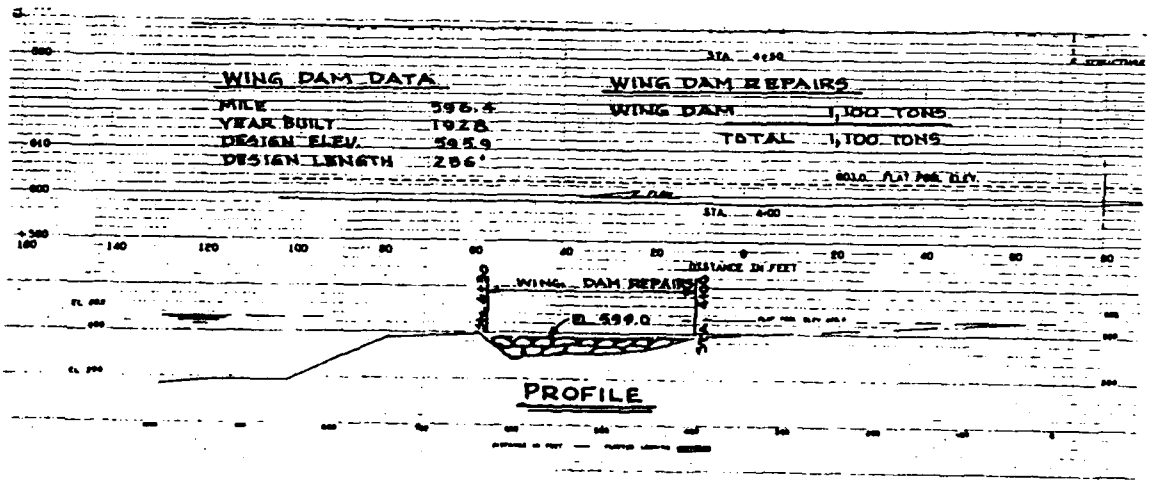
MISSISSIPPI RIVER
POOL 11

WING DAM REMEDIAL WORK
WING DAM NO. 5 – MILE 596.7
PLAN and PROFILE



PLAN

WING DAM NO. 39



PROFILE

MISSISSIPPI RIVER
POOL 11

WING DAM REMEDIAL WORK
WING DAM NO. 39 - MILE 596.4
PLAN and PROFILE

PLATE 4

APPENDIX A

PERTINENT CORRESPONDENCE

STATE OF IOWA

TERRY E. BRANSTAD, GOVERNOR

DEPARTMENT OF NATURAL RESOURCES
LARRY J. WILSON, DIRECTOR

February 26, 1992

District Engineer
U.S. Army Engineer District, Rock Island
ATTN: Planning Division, Mr. Joseph Jordan
Clock Tower Building
P. O. Box 2004
Rock Island, Illinois 61204-2004

SUBJECT: Proposed repair of two wingdams and lengthen one closing dam on the Mississippi River between R.M. 596.4 and 597.3.

Dear Mr. Jordan:

The Iowa Department of Natural Resources as reviewed the proposed repair work on two wingdams and to lengthen one closing dam between river mile 596.4 and 597.3 on the Mississippi River.

While most of the work will be in the State of Wisconsin, this agency has no objections to the project and concurs with the planning report.

Thank you for the opportunity to review and comment on the proposed construction work.

Sincerely,

Larry J. Wilson, Director
Iowa Department of Natural Resources

LJW:dlh

WALLACE STATE OFFICE BUILDING / DES MOINES, IOWA 50319 / 515-281-5145 / TDD 515-242-5967

State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Carroll D. Besadny
Secretary

State Office Building, Room 104
3550 Mormon Coulee Road
La Crosse, Wisconsin 54601
TELEPHONE 608-785-9000
TELEFAX 608-785-9990

March 2, 1992

District Engineer
U.S. Army Corps of Engineers
ATTN: Planning Division
P.O. Box 2004
Rock Island IL 61204-2004

Dear Mr. Jordan:

The Wisconsin Department of Natural Resources has reviewed your letter dated 3 February 1992, that outlines the restoration of three wingdams and the construction of a closing structure at river mile 595.9. The following comments should be considered as you begin planning for construction or should be addressed in the Environmental Assessment.

The wingdam work and the closing structure will both require a permit. Because of timing, we suggest you apply for two separate permits, one for the wingdam work and one for the closing structure. It will take approximately ninety days to process a permit and Mr. Ed Bourget in Eau Claire will process the permit. You can contact him at: District Headquarter, 1300 W. Clairemont Ave., Call Box 4001, Eau Claire, WI 54702-4001 or ((715)839-3730).

Closing dam construction will require close coordination and planning for all phases, to ensure completion of the entire project during the 1992 construction season. We do not want the sand base in place without the rock protection for an extended period. Rock for the structure and Rip-Rap should be placed immediately following sand base construction to minimize base erosion.

If you anticipate dredging more than 14,000 to 16,000 yd3 needed for the sand base, you need to indicate where the remaining dredged material will be placed. The sand base cannot provide a dredged material placement site.

We expect hydraulic, fisheries and mussel impacts will be detailed in the Environmental Assessment. The hydraulic evaluation should determine where the Finley's Landing dredged material will be deposited. This project should not create another dredging problem downstream or increase sedimentation to a downstream backwater. The hydraulic evaluation should determine site specific impacts and should predict post-project river reach conditions. Finally, the hydraulic study should address the flood impacts that may result from this closing structure. We expect the mussel and pre-project fisheries surveys will be complete and evaluation sent to us prior to the construction of the closing structure. We will need at least two weeks review time before project construction.

As a special note, we would like to thank the Corps for the thorough pre and post-fisheries study. This information will provide valuable documentation of pre and post fisheries use of the structure.

This letter should provide advance guidance to the Rock Island District about WDNR expectations before construction of these structures. If you have any questions with regard to this letter or anything else, please contact me at (608)785-9982 or (608)534-7422.

Sincerely,

Gretchen L. Benjamin
Mississippi River Planner

cc Ed Bourget - WD
Rick Berry - USFWS

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF:

MAR 11 1992

Dudley M. Hanson, P.E.
Chief, Planning Division
Department of the Army
Rock Island District, Corps of Engineers
Clock Tower Building
P.O. Box 2004
Rock Island, Illinois 61204-2004

Dear Mr. Hanson:

In accordance with our responsibilities under the National Environmental Policy Act, we have reviewed your agency's scoping letter regarding the proposed repair of two wingdams and the lengthening of one closing dam between river mile 596.4 and 597.3 on the Mississippi River due to erosion. We offer the following comments.

Describe the types of aquatic organisms that exist in the project area and indicate whether proposed construction activities have the potential to adversely impact these organisms. Describe the types of wildlife habitats or valuable or unique area habitats such as wetlands, prairies, scientific areas, or areas inhabited by rare, threatened or endangered species that exist in, and in the vicinity of, the project area. If the potential exists for adverse impacts to occur at these areas as a result of project activities, describe what mitigation measures would be implemented to reduce or eliminate such impacts. Also, project work should be scheduled so that breeding and migration seasons for fish and wildlife are avoided.

The scoping letter states that the proposed new closing dam has been designed to use dredged material as a base. Provide information on the dredged material proposed to be used for this purpose, including its physical, chemical and biological characteristics. Provide information on the quality of the sediment at the project site, as construction activities may cause contaminants to be released to the aquatic environment. Describe what measures will be taken during construction activities to minimize turbidity and to contain sediment and construction debris within the project area.

It is indicated in the scoping document that several thousand tons of sand and rip rap will be required for construction. We recommend that these materials be purchased from commercial sources and that this be stipulated in the project contract that is put out for bid to ensure that wetlands or other unique area habitats are not impacted when obtaining these materials. Another option for your agency to consider is the use of uncontaminated construction or demolition debris as rip rap rather than purchasing all of the stone. We support the reuse and recycling of waste materials whenever possible due to reduced landfill space, depleting natural resources and associated environmental impacts.

Finally, describe what measures are proposed to be taken during construction activities to control erosion and to minimize the introduction of soil into the river. This may include limiting the number of access points to the project area, establishing a staging area for the construction equipment and materials in an environmentally non-sensitive area, and revegetating all disturbed areas, preferably with native vegetation, following construction. The use of such measures should also be put in the project contract.

Thank you for the opportunity to provide scoping comments on the proposed Mississippi River dam projects. We look forward to reviewing the NEPA documentation as soon as it becomes available. If you have any questions on our comments, please contact Holly Wirick of my staff at (312/FTS) 353-6704.

Sincerely yours,

William D. Franz, Chief
Environmental Review Branch
Planning and Management Division

CONVERSATION RECORD	TIME 15:55	DATE 13 March 1992

TYPE ( )VISIT ( )CONFERENCE	(x)TELEPHONE (x)INCOMING ( )OUTGOING	CF: ----------

NAME CONTACTED	ORGANIZATION	TELEPHONE
Scott Ogan	U.S. Coast Guard	314/539-3714

SUBJECT: Finleys Landing Closing Dam Construction and Wing Dam Repair, RM 595.9 - 597.3, Mississippi River

SUMMARY:

1. Mr. Ogan called in response to the Corps' February 3, 1992 coordination letter, SAB.

2. He stated the Coast Guard has no objection to raising the closing dam and the wing dam repairs.

ACTION REQUIRED:

NAME OF PERSON DOCUMENTING CONVERSATION	SIGNATURE	DATE
Dorie Bollman	Dorie Bollman	14 May 1992

ACTION TAKEN

SIGNATURE	TITLE	DATE

50271-101 CONVERSATION RECORD (12-76)

State Historical Society of Wisconsin
Division of Historic Preservation
816 State Street • Madison, Wisconsin 53706-1488
☎ (608) 264-6500 • FAX (608) 264-6404

April 30, 1992

Mr. Dudley Hanson
U.S. Army Engineer District, Rock Island
Planning Division
Clock Tower Building
P.O. Box 2004
Rock Island, IL 61204-2004

IN REPLY PLEASE REFER TO SHSW: #92-0369/GT
RE: Alternations & Construction of Dams in Mississippi River
ID: Wing Dams Nos. 5 & 39, Dam No. 3/Construction of New Dam at Mile 595.9

Dear Mr. Hanson:

We have reviewed the letter report of the archeological investigations conducted in the above-referenced project area by Corps staff archeologist Ron Pulcher. The survey procedures utilized were sufficiently thorough to justify the conclusion that there are no archeological resources eligible for inclusion on the National Register of Historic Places within the areas surveyed. In addition, we concur with the opinion of the Corps that the proposed dam repair and construction does not have the potential to affect significant cultural resources.

It is always possible that deeply buried archeological sites may be found during construction. If such finds are made, please contact our office at (608) 264-6507. Should burials be discovered during construction, you must contact our office immediately for compliance with s.157.70, Wis. Stats., which provides for the protection of human burial sites.

This completes our review of this project, with this letter constituting our final comments. Should project plans be modified, please submit any changes for review. Thank you for your cooperation. Should you have any questions, please contact me directly at the above telephone number.

Sincerely,

Jennifer Kolb

Jennifer L. Kolb
Archeologist
DIVISION OF HISTORIC PRESERVATION

JLK/GB/gb

APPENDIX B

SECTION 404(b)(1) EVALUATION

DEPARTMENT OF THE ARMY
ROCK ISLAND DISTRICT, CORPS OF ENGINEERS
CLOCK TOWER BUILDING – P.O. BOX 2004
ROCK ISLAND, ILLINOIS 61204-2004

REPLY TO
ATTENTION OF:

CENCR-PD-E

CLEAN WATER ACT
SECTION 404(b)(1) EVALUATION

WING DAM IMPROVEMENTS AT FINLEY'S LANDING

POOL 11, MISSISSIPPI RIVER
GRANT COUNTY, WISCONSIN

JULY 1992

WING DAM IMPROVEMENTS AT FINLEY'S LANDING

POOL 11, MISSISSIPPI RIVER
GRANT COUNTY, WISCONSIN

APPENDIX B
CLEAN WATER ACT
SECTION 404(b)(1) EVALUATION

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POOL 11, MISSISSIPPI RIVER
GRANT COUNTY, WISCONSIN

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CLEAN WATER ACT
SECTION 404(b)(1) EVALUATION

SECTION 1 - PROJECT DESCRIPTION

LOCATION

This document specifically addresses rock placement at three sites. All three sites are in Pool 11, River Miles 595.9 -597.3, Mississippi River, Grant County, Wisconsin. These structures are existing structures and include two wing dams and one closing dam (plate 1).

GENERAL DESCRIPTION

The proposed work addressed in this document involves raising Wing Dams Nos. 39 and 5 and Closing Dam No. 3 to elevation 599.0 from their construction height of elevation 596.3. Each proposed action is described below:

A. Closing Dam No. 3. This structure is located at RM 596.3. Plate 4 shows the original design dimensions and the proposed dimensions. This structure will be raised to elevation 599.0, 4 feet below flat pool. The dam's length will be increased by 62 feet on its west side. Two hundred feet of bankline protection will be installed on both banks adjacent to the closing dam.

B. Wing Dam No. 5. This structure is located at RM 596.7. Elevation of Wing Dam No. 5 is to be raised from 596.0 to 599.0, or 4 feet below flat pool. The length of the wing dam will be brought back to original design of 1,749 feet.

Island 203 will have 200 feet of bankline protection added at the wing dam juncture.

C. Wing Dam No. 39. This structure is located at RM 596.4. Its elevation is to be raised from 595.9 to 599.0, or 4 feet below flat pool. Its length will remain at 236 feet, and no bankline protection is needed (plate 6).

AUTHORITY AND PURPOSE

Authority for the proposed improvements is contained in Section 1 of Public Law 520, 71st Congress, H.R. 11781, and Section 1 of Public Law 409, 74th Congress, H.R. 6732 (the Rivers and Harbors Acts of July 3, 1950, and August 30, 1935, respectively).

GENERAL DESCRIPTION OF DREDGED AND FILL MATERIAL

Fill material will consist of approximately 12,300 tons of inert and uncontaminated limestone/dolomite rock obtained from an approved source. Rock of up to the 400-pound size will be used for all structures.

DESCRIPTION OF PROPOSED DISCHARGE SITES

Plate(s) 1-4 show locations of the new and existing construction. The proposed discharge sites are in Mississippi River side channel habitat. The sites are open water, unconfined, and along the bankline. Timing and duration of the discharge at Wing Dam Nos. 5, 3, and 39 will be repaired later this summer/early fall. This work is expected to last 2 to 3 weeks.

DESCRIPTION OF PLACEMENT METHOD

Placement of rock material for the wing dam/closing dam repair typically involves the use of deck-mounted cranes and/or derricks, deck barges, endloaders, quarter boats, and tender craft. Materials are dumped to alignment and spread to profile. Large grade stone is placed by crane or derrick.

SECTION 2 - FACTUAL DETERMINATIONS

PHYSICAL SUBSTRATE DETERMINATIONS

The elevation and slope of all discharge sites will change as indicated on plates 2 through 4. The actual increase varies across the river bottom cross section, depending on depth. The existing bottom elevations also vary according to movement of the river's bedload. Substrate may accrete or degrade depending on the river's discharge stage. Although the completed structures will remain at the constructed elevation indicated on plates 2 through 4, adjacent and nearby bottom substrata will likely change. As intended, the structures will probably cause a decrease in bottom elevation in the river thalweg (or main channel) and/or prevent the shoaling (addition) of new sediments which would require dredging. Placing the newly constructed feature and repair to existing structures hopefully will eliminate the shoaling which now occurs regularly.

Besides deepening the main channel, submerged wing dams and closing dams tend to cause a deepening of the river bottom immediately downstream of the structure. These "scour holes" are often 30 to 40 feet deep.

Undercutting of the bank is causing tons of sediment and toppled trees to re-enter the river. Installation of bankline protection along the shore at the juncture of Wing Dam No. 5 and Closing Dam No. 3 will prevent further degradation.

Material placed for construction will be quarried limestone, up to the 400-pound size, for all the structures. For areas of new construction, this will be a change from the existing sediment of sand and silt, gravel composition. Movement of material off-site will be negligible due to the large-sized rock used for construction.

Material placement should not significantly affect benthic inhabitants. Existing benthos populations in areas of new construction are minimal because of the unstable sand substrate. The newly deposited rock will provide a stable, permanent substrate that will increase benthos populations.

Actions taken to minimize adverse effects are as follows:

Minimum vegetation impacts are anticipated by the proposed action. Faunal impacts will be limited to short-term disruption of the aquatic community. Since the proposed action will provide similar aquatic habitat to the existing habitat, no methods to minimize impacts have been identified.

Because bald eagle (*Haliaeetus leucocephalus*) use of the area is limited to the winter months, restricting construction to late summer and/or early fall minimizes any disturbance to winter resident and migrating eagles.

WATER CIRCULATION, FLUCTUATION, AND SALINITY DETERMINATIONS.

WATER

Typically, analysis of sand sediments, such as found immediately in the project area, reveals little evidence of pollutants due to the limited surface area of sand-size particles and the lack of strong chemical bonding of contaminants to sand grains.

Any contaminants in sandy materials would be those typically contained or transported by normal fluvial processes and therefore common constituents of the Mississippi River system. Any activity that would disturb the existing substrate would therefore not be anticipated to alter water chemistry in the water column.

Clarity and turbidity of the river varies with seasonal flow. Placement sites and methods have been selected to minimize impacts to clarity, color, odor, taste, dissolved gas levels, nutrients, and biochemical oxygen demand in the riverine environment. Discharge of rock will stabilize finer substrate materials; terrestrial placement of rock bankline protection will minimize water quality impacts.

Nonriverine originated components such as rock fill, capstone, concrete, and steel which may be placed temporarily or permanently during construction will be physically stable and chemically noncontaminating.

CURRENT PATTERNS AND CIRCULATION

The proposed structures will affect currents and flow. The purpose of improving the structures is to direct water that now flows through Hurricane Chute into the main channel (thalweg). In the immediate vicinity of the structures, flows in Hurricane Chute will decrease. There would not be any noticeable decrease patterns upstream or downstream of the project. Changes in aquatic resources are difficult to predict, but there may be a trend toward a more backwater type environment.

Terrestrial discharge of material should not affect hydraulic or hydrologic conditions in the project area.

Current velocity will decrease in Hurricane Chute. Water velocity over the wing dams and closing dams will increase because of the increased vertical construction. Main channel velocities also increase in the immediate project vicinity.

Stratification is not applicable.

As described in previous paragraphs, flow and resultant scouring will tend to increase in the main channel. The Hurricane Chute side channel will experience decreased flows. These effects tend to become less noticeable as river discharge stages rise. Also, these effects are usually local and will not affect the channel within about a mile upstream or downstream of the project.

NORMAL WATER LEVEL FLUCTUATIONS

No effects on normal seasonal river stages are anticipated by the proposed actions.

SALINITY GRADIENTS

The proposed actions take place in and around a freshwater stream system. Therefore, no consideration of salinity gradients is warranted for these actions.

ACTIONS TAKEN TO MINIMIZE IMPACTS

The use of chemically stable materials and physical stabilization of materials by design are actions intended to reduce impacts to the riverine system.

All structures will be below flat pool elevation. This will decrease hazards to boaters and prevent formation of fast land on or below the structures.

SUSPENDED PARTICULATE/TURBIDITY DETERMINATIONS

Rock placement along the bankline will decrease the suspended particulates now originating from the ongoing shoreline erosion. All other completed structures will have negligible effects on turbidity and suspended particulates.

EFFECTS ON CHEMICAL AND PHYSICAL PROPERTIES OF WATER COLUMN

Light Penetration - No effect.

Dissolved Oxygen - No effect.

Toxic Metals and Organics - No effect.

Pathogens - No effect.

Aesthetics - No effect.

Effects on biota, including primary producers, i.e., zoo and phytoplankton, suspension/filter feeders, and sight feeders are anticipated to be short-term. Invertebrate populations of mayflies, caddisflies, stoneflies, and other aquatic insects will increase significantly on the rock substrate provided.

Impacts are anticipated to be minimized by placement site selection dredging methodology and the use of chemically noncontaminating and physically stable materials for project construction.

CONTAMINANT DETERMINATIONS

Rock fill material will be clean, uncontaminated limestone from an approved source.

Sand fill material will come from the main channel of the river. Although this material is generally inert, stable material, there is a minor potential for contaminants. However, any contaminants present are generally part of the modern riverine system and are commonly suspended, transported, and deposited through normal fluvial processes in the Mississippi River.

AQUATIC ECOSYSTEM AND ORGANISM DETERMINATIONS

Because the likelihood of contamination by pollutants is generally low for projects involving rock placement, impacts to the aquatic ecosystem are anticipated to be negligible.

Effects on plankton are anticipated to be minimal. Effects on benthos will be limited to elimination of those organisms currently inhabiting the immediate placement sites. The placement of rock fill should provide interstitial spaces for invertebrate population production and limited vertebrate spawning potential. The type of benthos present in some areas may change toward species preferring quiet waters, since flows will be diminished.

Effects on nekton will be limited to displacement and temporary disruption of foraging patterns. Because the proposed activities are generally held to low-flow (hence, nonspawning seasons), impacts to spawning species should be negligible. Fish populations will benefit from the riprap, closing dam, and decreased flow in Hurricane Chute. Riprap, through invertebrate colonization, will provide an excellent food source and

possible spawning sites. The closing dam also will provide these benefits in addition to forming a deep scour hole downstream of the structure. This scour hole may be used by some fishes for resting, feeding, and overwintering sites in some cases. The more quiet water will favor species such as crappie, bluegill, and bass.

Effects on the aquatic food web are expected to be beneficial overall by increasing production at the lower trophic levels.

Effects on special aquatic sites should be negligible in the project area; no sanctuaries or refuges will be affected by the project action. No wetlands or mudflats will be affected by the project actions. No vegetated shallows, coral reefs, or riffle and pool complexes will be affected by the proposed actions.

Threatened and endangered species use of, or existence in, the project area is discussed in the Environmental Assessment. No impacts or effects to endangered species are anticipated.

Other wildlife, such as the river otter, muskrat, and beaver which would move through and around the project area, should only be affected to the extent of travel disruption. No food chain or critical habitat requirements will be affected by the proposed actions.

PROPOSED PLACEMENT SITE DETERMINATIONS

The fill material is inert and will not mix with the water. The lack of fine particulates typically contained in rock fill and main channel sand indicates negligible chemical or turbidity effects resulting from this action.

Due to the nature of the fill material, all discharges are anticipated to be in compliance with State water quality standards.

The proposed project should have no effect on municipal or private water supplies. Recreational or commercial fisheries are expected to benefit from the proposed action. Water-related recreation will not be affected. All of the work has been designed so that each structure remains at least 3 feet below flat pool elevation. Aesthetics are generally negatively affected by this type of construction activity; however, the exposed rock will eventually weather and blend in with the surrounding vegetation and sediment.

DETERMINATION OF CUMULATIVE EFFECTS ON THE AQUATIC ECOSYSTEM

Placement of rock should add diversity to the substrate in this reach of the river. This diversity should provide crevices and interstices in which certain aquatic organisms can feed and reproduce. In terms of habitat diversity, therefore, scour protection will have a net positive effect on the aquatic ecosystem.

No detrimental cumulative impacts are anticipated because of this project.

DETERMINATION OF SECONDARY EFFECTS ON THE AQUATIC ECOSYSTEM

No secondary effects on the aquatic ecosystem are anticipated. Several beneficial secondary effects, as already discussed, are likely to occur. This determination is subject to reevaluation, if warranted by Federal, State, or local agency comment, as well as input from the general public.

SECTION 3 - FINDINGS OF COMPLIANCE WITH THE RESTRICTIONS ON DISCHARGE

1. No significant adaptations of the 404(b)(1) guidelines were made relative to this evaluation.

2. Evaluation of Practicable Alternatives. Refer to EA Sections III and VII.

No Federal Action. This alternative was not selected because it would result in continued dredging and placement operations which are extremely costly and cause environmental impacts from placement.

3. Permits, certification, or waiver of certification under Section 404 of the Clean Water Act will be obtained before construction begins. The project will be in compliance with water quality standards of Wisconsin.

4. The project is not anticipated to introduce significant quantities of toxic substances into nearby waters or result in appreciable increases in existing levels of toxic materials.

5. No significant impact to Federal or State-listed endangered species will result from the proposed action.

6. The project is situated along an inland freshwater stream system. No marine sanctuaries are involved or would be affected by the proposed action.

7. No municipal water supplies will be affected by the proposed action, and no degradation of waters of the United States are anticipated to result from the proposed action.

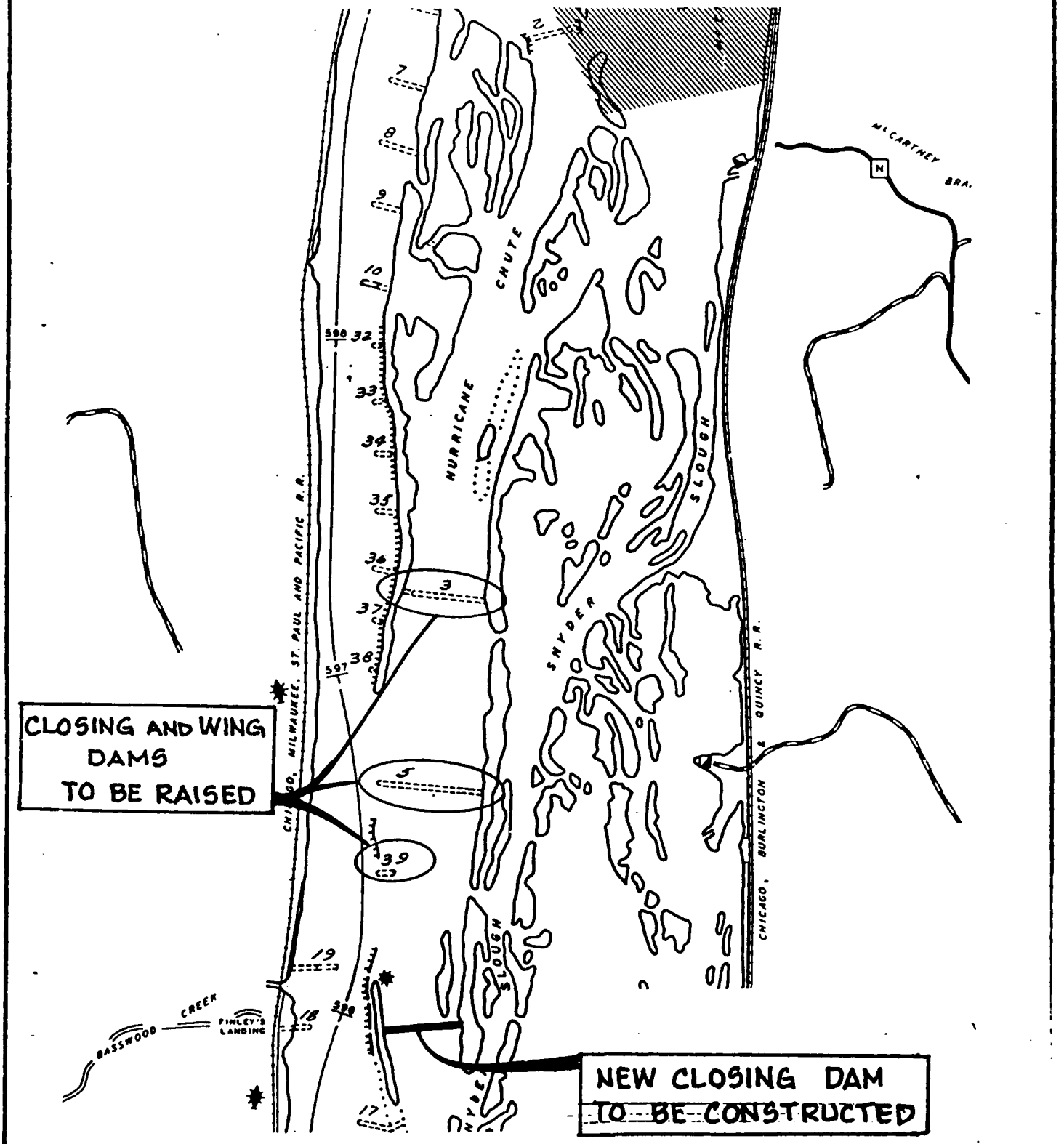
8. The materials used for construction will be chemically and physically stable and noncontaminating. Dredged materials are currently proposed to be disposed for beneficial use (levee repair of reverberation).

9. No other practical alternatives have been identified. The proposed action is in compliance with Section 404(b)(1) of the Clean Water Act, as amended. The proposed action will not significantly impact water quality and will improve the integrity of an authorized navigation system.

_____
Date

Alfred J. Kraus
Colonel, U.S. Army
District Engineer

CORPS OF ENGINEERS



MISSISSIPPI RIVER
POOL 11

CLOSING AND WING DAM
REMEDIAL WORK

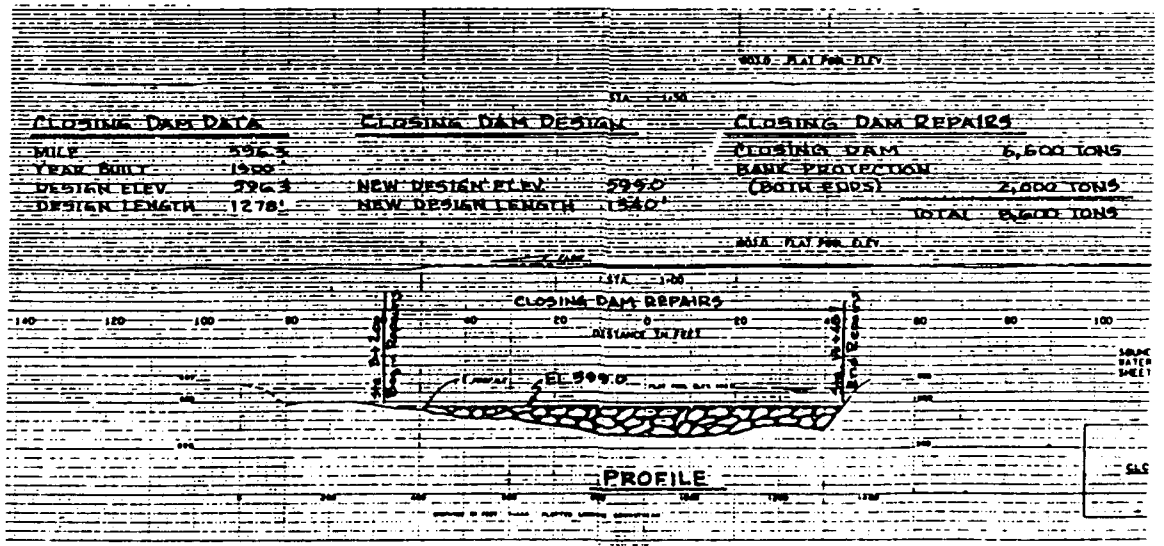
GENERAL PLAN

PLATE 1

CORPS OF ENGINEERS

PLAN

CLOSING DAM NO. 3

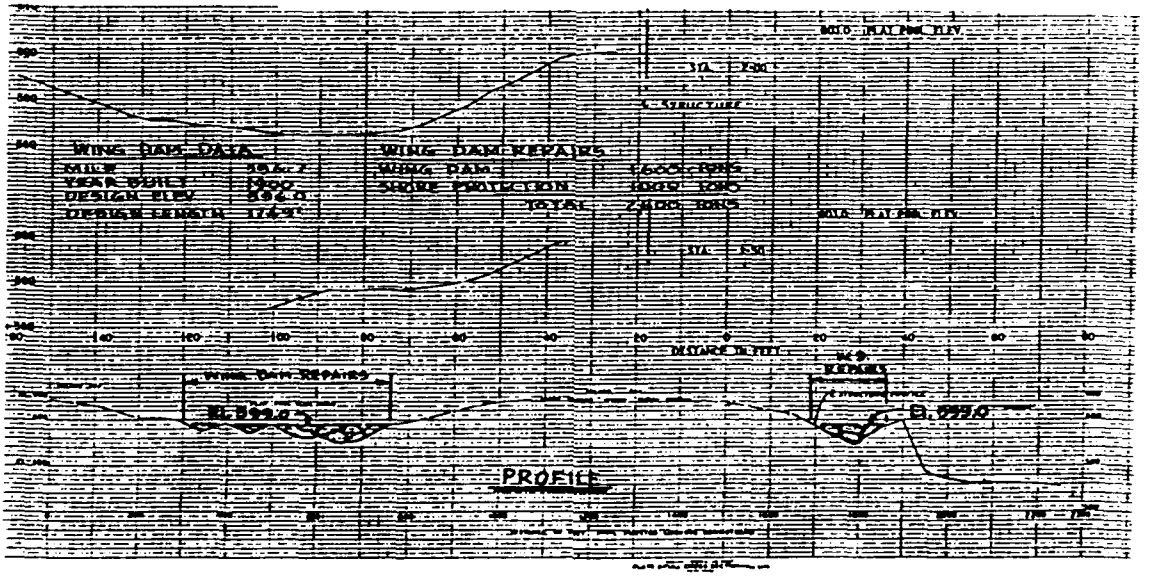


MISSISSIPPI RIVER
POOL 11

CLOSING DAM REMEDIAL WORK
CLOSING DAM NO. 3 - MILE 597.3
PLAN and PROFILE

PLATE 2

PLAN
WING DAM NO. 5



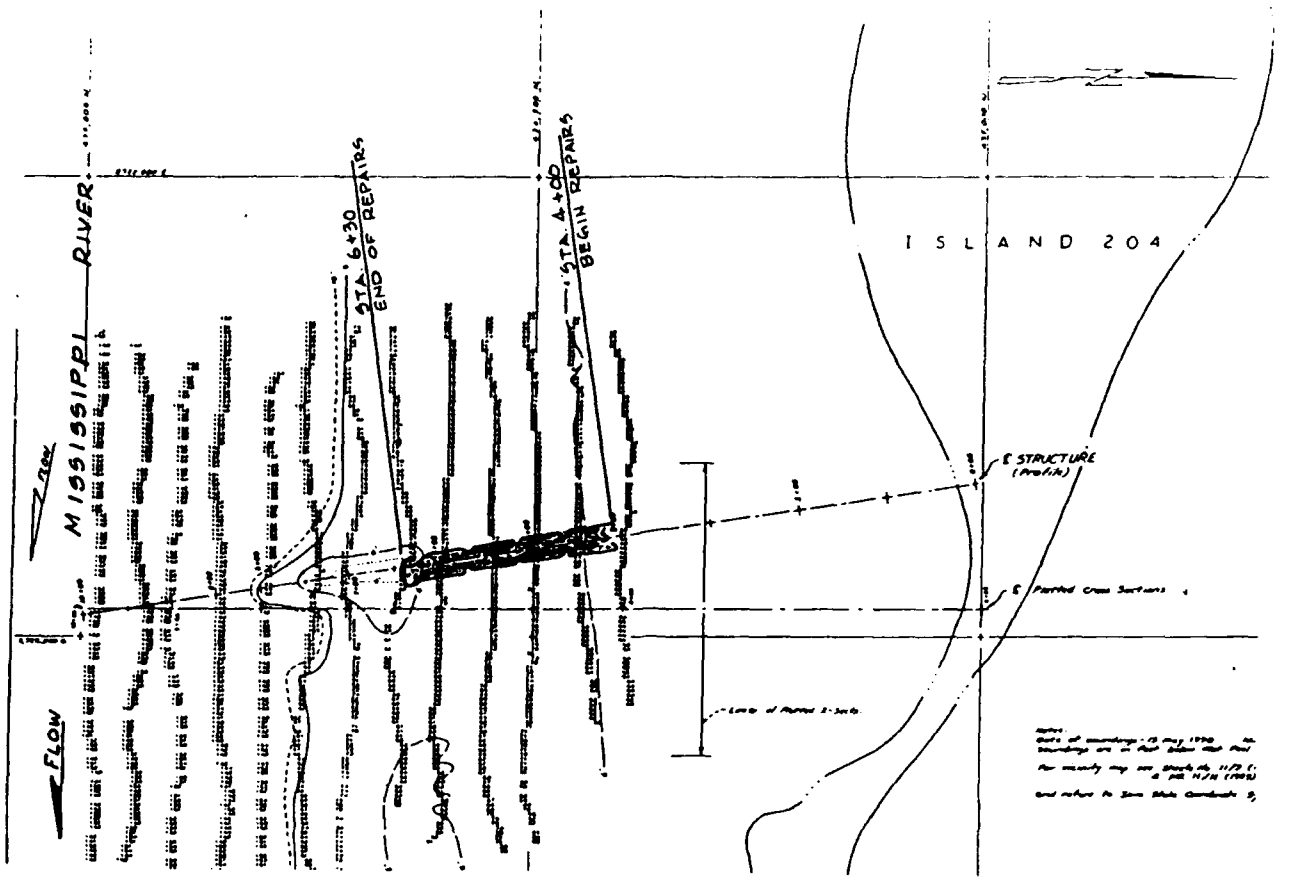
MISSISSIPPI RIVER
POOL 11

WING DAM REMEDIAL WORK

WING DAM NO. 5 – MILE 596.7

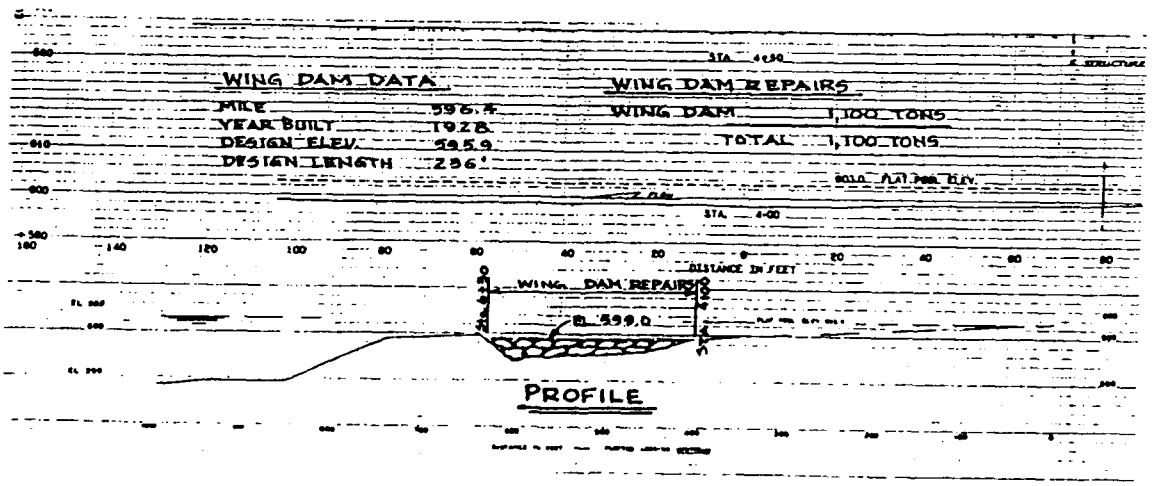
PLAN and PROFILE

PLATE 3



PLAN

WING DAM NO. 39



PROFILE

MISSISSIPPI RIVER
POOL 11

WING DAM REMEDIAL WORK
WING DAM NO. 39 - MILE 596.4
PLAN and PROFILE

PLATE 4

APPENDIX C

DISTRIBUTION LIST

DISTRIBUTION LIST
WING DAM IMPROVEMENTS AT FINLEY'S LANDING
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